

No.

200000247



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

NASA Research Foundation

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSE, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. IN THE UNITED STATES SEED OF THIS VARIETY (1) SHALL BE SOLD BY VARIETY NAME ONLY AS A CERTIFIED SEED AND (2) SHALL CONFORM TO THE NUMBER OF GENERATIONS SPECIFIED BY THE OWNER OF THE VARIETY. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

WHEAT, DURUM

'Plaza'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this twelfth day of September, in the year two thousand one.

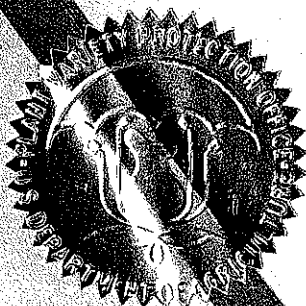
Attest:

Paul M. Zarbouni

Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

[Signature]

Secretary of Agriculture



U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICE

The following state hints are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE
(Instructions and information collection burden statement on reverse)

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1 NAME OF OWNER NDSU Research Foundation		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME D91080	3. VARIETY NAME Plaza
4 ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country) c/o Executive Director P.O. Box 5014 Fargo, ND 58105-5014		5. TELEPHONE (include area code) 701-231-8931	FOR OFFICIAL USE ONLY PVPO NUMBER 200000247
		6. FAX (include area code) 701-231-10103	
7 IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION (corporation, partnership, association, etc.) NDSU Research Foundation	8. IF INCORPORATED, GIVE STATE OF INCORPORATION North Dakota	9. DATE OF INCORPORATION May 1989	FILING DATE May 17, 2000
10 NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. (First person listed will receive all papers)			FILING AND EXAMINATION FEES:
Elias Elias Department of Plant Sciences North Dakota State University P.O. Box 5051 Fargo, ND 58105-5051			\$ 2450.00
Dale Zetocha Executive Director NDSU Research Foundation P.O. Box 5014 Fargo, ND 58105-5014			DATE 5-17-2000
			CERTIFICATION FEE: \$ 320.00
			DATE 8/17/01
11 TELEPHONE (include area code) 701-231-8159	12. FAX (include area code) 701-231-8474	13. E_MAIL elias@prairie.nodak.edu	14. CROP KIND (Common Name) Durum wheat
15 GENUS AND SPECIES NAME OF CROP Triticum turgidum L. var. durum		16. FAMILY NAME (Botanical) Gramineae	17. IS THE VARIETY A FIRST GENERATION HYBRID? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
18 CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse)		19. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE SOLD AS A CLASS OF CERTIFIED SEED? See Section 83(a) of the Plant Variety Protection Act	
<input checked="" type="checkbox"/> Exhibit A. Origin and Breeding History of the Variety <input checked="" type="checkbox"/> Exhibit B. Statement of Distinctness <input checked="" type="checkbox"/> Exhibit C. Objective Description of Variety <input type="checkbox"/> Exhibit D. Additional Description of the Variety (Optional) <input checked="" type="checkbox"/> Exhibit E. Statement of the Basis of the Owner's Ownership <input checked="" type="checkbox"/> Voucher Sample (2,500 viable untreated seeds or, for tuber propagated varieties, verification that tissue culture will be deposited and maintained in an approved public repository) <input checked="" type="checkbox"/> Filing and Examination Fee (\$2,450), made payable to "Treasurer of the United States" (Mail to the Plant Variety Protection Office)		<input checked="" type="checkbox"/> YES (If "yes", answer items 20 and 21 below) <input type="checkbox"/> NO (If "no," go to item 22)	
		20. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
		21. IF "YES" TO ITEM 20, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED? <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED	
22. HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYBRID PRODUCED FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR USED IN THE U. S. OR OTHER COUNTRIES? <input checked="" type="checkbox"/> YES July 1, 1999 <input type="checkbox"/> NO IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION, TRANSFER, OR USE FOR EACH COUNTRY AND THE CIRCUMSTANCES. (Please use space indicated on reverse.)		23. IS THE VARIETY OR ANY COMPONENT OF THE VARIETY PROTECTED BY INTELLECTUAL PROPERTY RIGHT (PLANT BREEDER'S RIGHT OR PATENT)? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF YES, PLEASE GIVE COUNTRY, DATE OF FILING OR ISSUANCE AND ASSIGNED REFERENCE NUMBER. (Please use space indicated on reverse.)	
24. The owners declare that a viable sample of basic seed of the variety will be furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate. The undersigned owner(s) is(are) the owner of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42. Owner(s) is(are) informed that false representation herein can jeopardize protection and result in penalties.			
SIGNATURE OF OWNER Dale Zetocha		SIGNATURE OF OWNER	
NAME (Please print or type) Dale Zetocha		NAME (Please print or type)	
CAPACITY OR TITLE Executive Director	DATE 5/15/00	CAPACITY OR TITLE	DATE

INSTRUCTIONS

200000247

GENERAL: To be effectively filed with the Plant Variety Protection Office (PVPO), ALL of the following items must be received in the PVPO: (1) Completed application form signed by the owner; (2) completed exhibits A, B, C, E; (3) for a seed reproduced variety at least 2,500 viable untreated seeds, for a hybrid variety at least 2,500 untreated seeds of each line necessary to reproduce the variety, or for tuber reproduced varieties verification that a viable (in the sense that it will reproduce an entire plant) tissue culture will be deposited and maintained in an approved public repository; (4) check drawn on a U.S. bank for \$2,450 (\$300 filing fee and \$2,150 examination fee), payable to "Treasurer of the United States" (See Section 97.6 of the Regulations and Rules of Practice.) Partial applications will be held in the PVPO for not more than 90 days, then returned to the applicant as unfilled. Mail application and other requirements to Plant Variety Protection Office, AMS, USDA, Room 500, NAL Building, 10301 Baltimore Avenue, Beltsville, MD 20705-2351. Retain one copy for your files. All items on the face of the application are self explanatory unless noted below. Corrections on the application form and exhibits must be initialed and dated. **DO NOT** use masking materials to make corrections. If a certificate is allowed, you will be requested to send a check payable to "Treasurer of the United States" in the amount of \$300 for issuance of the certificate. Certificates will be issued to owner, not licensee or agent.

Plant Variety Protection Office

Telephone: (301) 504-5518

FAX: (301) 504-5291

Homepage: <http://www.ams.usda.gov/science/pvp.htm>

ITEM

- 18a. Give: (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method; (2) the details of subsequent stages of selection and multiplication; (3) evidence of uniformity and stability; and (4) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified

- 18b. Give a summary of the variety's distinctness. Clearly state how this application variety may be distinguished from all other varieties in the same crop. If the new variety is most similar to one variety or a group of related varieties:

- (1) identify these varieties and state all differences objectively;
- (2) attach statistical data for characters expressed numerically and demonstrate that these are clear differences; and
- (3) submit, if helpful, seed and plant specimens or photographs (prints) of seed and plant comparisons which clearly indicate distinctness

- 18c. Exhibit C forms are available from the PVPO Office for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely as possible to describe your variety.

- 18d. Optional additional characteristics and/or photographs. Describe any additional characteristics that cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the characteristics that are difficult to describe, such as plant habit, plant color, disease resistance, etc.

- 18e. Section 52(5) of the Act requires applicants to furnish a statement of the basis of the applicant's ownership. An Exhibit E form is available from the PVPO

19. If "Yes" is specified (*seed of this variety be sold by variety name only, as a class of certified seed*), the applicant MAY NOT reverse this affirmative decision after the variety has been sold and so labeled, the decision published, or the certificate issued. However, if "No" has been specified, the applicant may change the choice. (See Regulations and Rules of Practice, Section 97.103).

22. See Sections 41, 42, and 43 of the Act and Section 97.5 of the regulations for eligibility requirements.

23. See Section 5.5 of the Act for instructions on claiming the benefit of an earlier filing date.

22. CONTINUED FROM FRONT (Please provide the date of first sale, disposition, transfer, or use for each country and the circumstances, if the variety (including any harvested material) or a hybrid produced from this variety has been sold, disposed of, transferred, or used in the U.S. or other countries.)

23. CONTINUED FROM FRONT (Please give the country, date of filing or issuance, and assigned reference number, if the variety or any component of the variety is protected by intellectual property right (Plant Breeder's Right or Patent).)

NOTES: It is the responsibility of the applicant/owner to keep the PVPO informed of any changes of address or change of ownership or assignment or owner's representative during the life of the application/certificate. There is no charge for filing a change of address. The fee for filing a change of ownership or assignment or any modification of owner's name is specified in Section 97.175 of the regulations. (See Section 101 of the Act, and Sections 97.130, 97.131, 97.175(h) of the Regulations and Rules of Practice.)

To avoid conflict with other variety names in use, the applicant must check the variety names proposed by contacting: Seed Branch, AMS, USDA, Room 213, Building 306, Beltsville Agricultural Research Center-East, Beltsville, MD 20705. Telephone: (301) 504-8089.

Public reporting burden for this collection of information is estimated to average 30 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestion reducing this burden, to Department of Agriculture, Clearance Officer, OIRM, AG Box 7630, Jamie L. Whitten Building, Washington, D.C. 20250. When replying, refer to OMB No. 0581-0055 and form number in letter. Under the PRA of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

The U.S. Department of Agriculture (USDA) prohibits discrimination in its programs on the basis of race, color, national origin, sex, religion, age, disability, political beliefs, and marital or familial status. (The prohibited bases apply to all programs). Persons with disabilities who require alternative means for communication of program information (braille, large print, audiotape, etc.) should contact the USDA Office of Communications at (202) 720-2791. To file a complaint, write the Secretary of Agriculture, U.S. Department of Agriculture, Washington, D.C. 20250, or call (202) 720-7327 (voice) or (202) 720-1127 (TDD). USDA is an equal opportunity employer.

S&T-470 (6-98) designed by the Plant Variety Protection Office with WordPerfect 6.0s. Replaces STD-470 (03-96) which is obsolete.

EXHIBIT A - ORIGIN AND BREEDING HISTORY

'Plaza'

Fall 1987 Original cross was made at North Dakota State University (NDSU) greenhouse.
Pedigree - Plenty/D8291

 D8291 - Edmore/Coulter

Spring 1988 F₁ plants, NDSU greenhouse.

Summer 1988 F₂ plants, NDSU research land.

Summer 1989 F₃ head rows, NDSU research land.

Summer 1990 F₄ head rows, NDSU greenhouse.

Summer 1991 F₅ head rows, NDSU research land.

Summer 1992 F₆ preliminary yield trial, two locations, NDSU research land.
Experimental line designation - D901313.

Summer 1993 F₇ Advanced yield trial, two locations, NDSU research land.

Summer 1994 F₈ Elite yield trial, three locations, NDSU research land.

Summer 1995 F₉ Uniform Regional Durum Nursery, 13 locations, North Dakota, South Dakota, Minnesota, Montana, and Canada.

Summer 1996 F₁₀ Uniform Regional Durum Nursery, 13 locations, North Dakota, South Dakota, Minnesota, Montana, and Canada.

Summer 1996 Seed increase by Seedstocks Project.

Summer 1997 F₁₁ Uniform Regional Durum Nursery, 13 locations, North Dakota, South Dakota, Minnesota, Montana, and Canada.

Summer 1997	Second seed increase by Seedstocks Project.
Summer 1998	Uniform Regional Durum Nursery, 13 locations, North Dakota, South Dakota, Minnesota, Montana, and Canada.
Summer 1998	Third seed increase by Seedstocks Project.
July 1, 1999	D91080 was released as a named cultivar, Plaza.

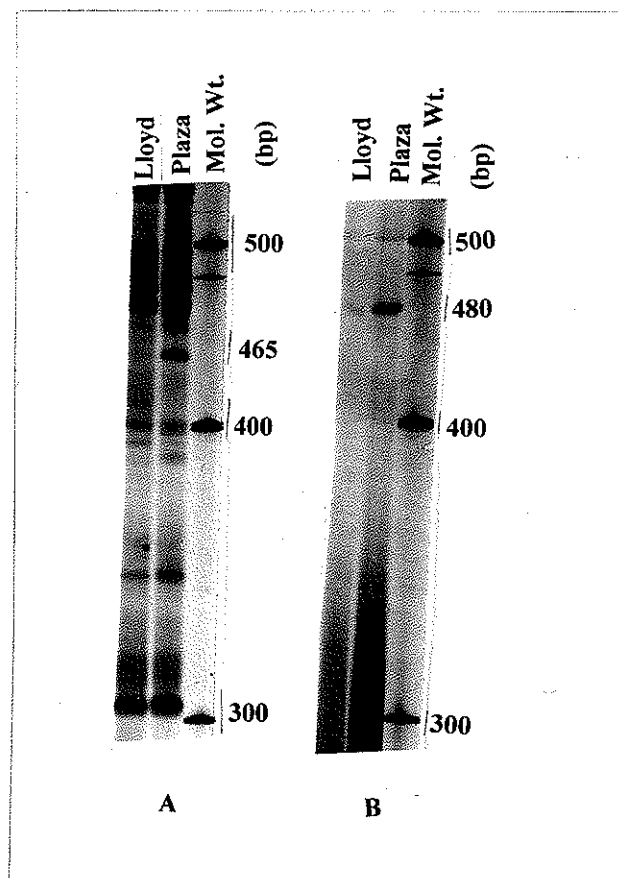
Plaza was observed for eight generations from 1991 to 1998 and was shown to be stable and uniform. Plaza has been rogued at the F_5 and subsequent generations. The frequency of rogued plants in each generation was less than 1/1000 plants. No variants were found in the variety Plaza.

The pedigree breeding method was used to develop Plaza. In early generations F_2 - F_4 high heritable traits such as plant height, maturity, and disease resistance were selected. Starting at F_5 generation, selection criteria also included grain yield, test weight, kernel weight, and pasta quality traits (i.e., protein content, gluten strength, milling extraction, spaghetti color, cooking quality, etc.). Based on data from multiple locations and years Plaza was selected for its high yield, large kernel size, and gluten strength.

EXHIBIT B - NOVELTY STATEMENT

To my knowledge, Plaza most nearly resembles Lloyd durum wheat. Lloyd and Plaza durum wheat can be unambiguously differentiated by molecular markers. Microsatellite analysis using primers Xgwm46 and Xgwm63 detected polymorphism between Lloyd and Plaza.

Figure 1. Microsatellite analysis of amplified DNA fragment showing fragment size polymorphism between Lloyd and Plaza. Panel A: Polyacrylamide Gel Electrophoresis of Lloyd and Plaza amplified DNA using primer pairs Xgwm46 (7B). Polymorphism is shown by the presence of a 465 basepairs DNA fragment in Plaza that is absent in Lloyd. Panel B: Polyacrylamide Gel Electrophoresis of Lloyd and Plaza amplified DNA using primer pairs Xgwm63 (7A). Polymorphism is shown by the presence of a 480 basepairs DNA fragment in Plaza that is absent in Lloyd.



Materials and Methods

Genomic DNA extraction was described in Riede and Anderson (1996). DNA amplification and primer nucleotide sequences were described in Röder et al. (1998). The procedure of microsatellite amplification is routinely used in laboratories across the world. Visualization of DNA fragment was done using the DNA silver staining system from Promega (Madison, WI). The procedure was repeated twice to confirm results.

Riede, C.R., and J.A. Anderson. 1996. Linkage of RFLP markers to an aluminum tolerance gene in wheat. *Crop Sci.* 36:905-909.

Röder M.S., V. Korzun, K. Wendehake, J. Plaschke, M.H. Tixier, P. Leroy, and M.W. Ganal. 1998. A Microsatellite map of wheat. *Genetics* 149:2007-2023.

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
COMMODITIES SCIENTIFIC SUPPORT DIVISION
BELTSVILLE, MARYLAND 20705

EXHIBIT C
(Wheat)

OBJECTIVE DESCRIPTION OF VARIETY
WHEAT (TRITICUM SPP.)

INSTRUCTIONS: See Reverse.

NAME OF APPLICANT(S)

NDSU RESEARCH FOUNDATION

ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code)

BOX 5014
FARGO, ND 58105-5014

FOR OFFICIAL USE ONLY

PVPO NUMBER

2000002471

VARIETY NAME OR TEMPORARY DESIGNATION

PLAZA

Place the appropriate number that describes the varietal character of this variety in the boxes below.
Place a zero in first box (e.g., 0 8 9 or 0 9) when number is either 99 or less or 9 or less.

1. KIND:

2 1 = COMMON 2 = DURUM 3 = EMMER 4 = SPELT 5 = POLISH 6 = POULARD 7 = CLUB

2. TYPE:

1 1 = SPRING 2 = WINTER 3 = OTHER (Specify) 3 1 = SOFT 2 = HARD 3 = OTHER (Specify) AMBER

3 1 = WHITE 2 = RED 3 = OTHER (Specify) AMBER

3. SEASON - NUMBER OF DAYS FROM EMERGENCE TO:

55 60 FIRST FLOWERING 6 0 LAST FLOWERING

4. MATURITY (50% Flowering):

NO. OF DAYS EARLIER THAN 1 = ARTHUR 2 = SCOUT 3 = CHRIS
0 1 NO. OF DAYS LATER THAN 6 4 = LEMHI 5 = NUGAINES 6 = LEEDS

5. PLANT HEIGHT (From soil level to top of head):

7 3 CM. HIGH
CM. TALLER THAN
1 6 CM. SHORTER THAN 6 1 = ARTHUR 2 = SCOUT 3 = CHRIS
4 = LEMHI 5 = NUGAINES 6 = LEEDS

6. PLANT COLOR AT BOOTING (See reverse):

2 1 = YELLOW GREEN 2 = GREEN 3 = BLUE GREEN

7. ANTHUR COLOR:

1 1 = YELLOW 2 = PURPLE

8. STEM:

1 Anthocyanin: 1 = ABSENT 2 = PRESENT 1 Vaxy bloom: 1 = ABSENT 2 = PRESENT
1 Hairiness of last internode of rachis: 1 = ABSENT 2 = PRESENT 1 Internodes: 1 = HOLLOW 2 = SOLID
0 4 NO. OF NODES (Originating from node above ground) 1 7 CM. INTERNODE LENGTH BETWEEN FLAG LEAF AND LEAF BELOW

9. AURICLES:

1 Anthocyanin: 1 = ABSENT 2 = PRESENT 1 Hairiness: 1 = ABSENT 2 = PRESENT

10. LEAF:

2 Flag leaf at booting stage: 1 = ERECT 2 = RECURVED 1 Flag leaf: 1 = NOT TWISTED 2 = TWISTED
3 = OTHER (Specify): 1 Hairs of first leaf sheath: 1 = ABSENT 2 = PRESENT 1 Vaxy bloom of flag leaf sheath: 1 = ABSENT 2 = PRESENT
1 1 MM. LEAF WIDTH (First leaf below flag leaf) 2 2 CM. LEAF LENGTH (First leaf below flag leaf):

11. HEAD:

 Density: 1 = LAX 2 = DENSE

 Shape: 1 = TAPERING 2 = STRAP 3 = CLAVATE
4 = OTHER (Specify) OBLONG
 Awnedness: 1 = AWNLESS 2 = APICALLY AWNLETED 3 = AWNLETED 4 = AWNED

 Color at maturity: 1 = WHITE 2 = YELLOW 3 = PINK 4 = RED
5 = BROWN 6 = BLACK 7 = OTHER (Specify): _____

 CM. LENGTH

 MM. WIDTH

12. GLUMES AT MATURITY:

 Length: 1 = SHORT (CA. 7 mm.) 2 = MEDIUM (CA. 8 mm.)
3 = LONG (CA. 9 mm.)

 Width: 1 = NARROW (CA. 3 mm.) 2 = MEDIUM (CA. 3.5 mm.)
3 = WIDE (CA. 4 mm.)

 Shoulder shape: 1 = WANTING 2 = OBLIQUE 3 = ROUNDED
4 = SQUARE 5 = ELEVATED 6 = APICULATE

 Beak: 1 = OBTUSE 2 = ACUTE 3 = ACUMINATE

13. COLEOPTILE COLOR:

 1 = WHITE 2 = RED 3 = PURPLE

14. SEEDLING ANTHOCYANIN:

 1 = ABSENT 2 = PRESENT

15. JUVENILE PLANT GROWTH HABIT:

 1 = PROSTRATE 2 = SEMI-ERECT 3 = ERECT

16. SEED:

 Shape: 1 = OVATE 2 = OVAL 3 = ELLIPTICAL

 Cheek: 1 = ROUNDED 2 = ANGULAR

 Brush: 1 = SHORT 2 = MEDIUM 3 = LONG

 Brush: 1 = NOT COLLARED 2 = COLLARED

 Phenol reaction (See Instructions): 1 = IVORY 2 = FAWN 3 = LT. BROWN
4 = BROWN 5 = BLACK

 Color: 1 = WHITE 2 = AMBER 3 = RED 4 = PURPLE 5 = OTHER (Specify) _____

 MM. LENGTH

 MM. WIDTH

 GM. PER 1000 SEEDS

17. SEED CREASE:

 Width: 1 = 60% OR LESS OF KERNEL 'WINOKA'
2 = 80% OR LESS OF KERNEL 'CHRIS'
3 = NEARLY AS WIDE AS KERNEL 'LEMHI'

 Depth: 1 = 20% OR LESS OF KERNEL 'SCOUT'
2 = 35% OR LESS OF KERNEL 'CHRIS'
3 = 50% OR LESS OF KERNEL 'LEMHI'

18. DISEASE: (0 = Not Tested, 1 = Susceptible, 2 = Resistant)

 STEM RUST (Race) _____

 LEAF RUST (Race) _____

 STRIPE RUST (Race) _____

 LOOSE SMUT

 POWDERY MILDEW

 BUNT

 OTHER (Specify) _____

19. INSECT: (0 = Not Tested, 1 = Susceptible, 2 = Resistant)

 SAWFLY

 APHID (Bydv.)

 GREEN BUG

 CEREAL LEAF BEETLE

 OTHER (Specify) _____

 HESSIAN FLY
RACES:

 GP

 A

 B

 C

 D

 E

 F

 G

20. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED:

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Plant tillering		Seed size	
Leaf size		Seed shape	
Leaf color		Coleoptile elongation	
Leaf carriage		Seedling pigmentation	

INSTRUCTIONS

- GENERAL: The following publications may be used as a reference aid for the standardization of terms and procedures for completing this form:
- (a) L.W. Briggie and L. P. Reitz, 1963, Classification of Triticum Species and Wheat Varieties Grown in the United States, Technical Bulletin 1278, United States Department of Agriculture.
- (b) W.E. Walls, 1965, A Standardized Phenol Method for Testing Wheat Seeds for Varietal Purity, contribution No. 28 to the handbook of seed testing prepared by the Association of Official Seed Analysts. (See attachment.)

Mean of quality traits of the durum cultivar Plaza and selected durum cultivars grown in the drill strips at various locations in North Dakota (1995-1998).

Variety	Standard	Test		Vlt	1000		Fall	Wheat		Semo		Total		Semo		Specks	Mixo	Color	Cook	
		Weight	Kern		g	%	Lg	%	Prot	%	Prot	%	Ext	%	Ash				Loss	Firm
		lb/bu	%					mm							%	#/10 sq in			%	g cm
Lebsock		60.6	91		38.7	63		38	14.4	13.7		69.5	61.3	0.67		35	6	9.1	6.5	6.4
Plaza		58.6	89		36.5	52		41	13.9	13.1		69.3	60.7	0.69		32	5	9.1	7.0	5.9
Lloyd	S	57.3	87		38.6	54		44	14.1	13.1		68.5	59.8	0.72		38	6	8.8	6.7	6.5
Laker		58.2	90		39.3	64		51	14.3	13.4		68.7	60.3	0.71		36	7	8.4	6.5	6.4
Maier	S	59.3	93		37.4	57		48	15.3	14.5		69.6	61.0	0.71		33	7	9.2	6.3	7.4
Mountrail	S	59.2	92		38.5	54		40	14.4	13.7		69.0	60.7	0.68		34	5	8.9	6.1	6.3
Ben	S	59.8	92		40.8	67		42	14.7	13.9		69.0	60.8	0.69		33	6	8.9	6.7	6.6
Munich	S	58.8	92		35.8	52		35	14.5	13.7		69.1	60.5	0.69		30	5	9.3	6.4	6.5
Medora	S	58.9	92		36.8	58		42	15.0	14.1		68.6	60.1	0.70		34	6	9.2	6.4	6.6
Monroe	S	58.5	92		41.0	68		40	14.7	13.8		69.2	60.7	0.70		37	6	8.9	6.4	6.6
Renville	S	59.1	92		36.9	49		39	14.7	13.7		69.8	61.5	0.68		33	6	9.0	6.5	6.6
Vic	S	59.2	93		39.7	62		39	14.7	13.9		68.9	60.3	0.69		34	6	9.2	6.5	6.8
Rugby		59.2	91		36.6	54		24	14.6	13.6		68.7	60.7	0.72		35	3	9.0	6.5	5.4
Belzer		57.9	93		39.2	64		52	14.3	13.6		68.7	60.4	0.68		33	7	9.1	6.7	6.5
Avg. of																				
Standards		58.9	92		38.4	58		41	14.7	13.8		69.1	60.6	0.69		34	6	9.0	6.4	6.6

Number of locations/years = 23
Number of locations/years for Laker = 19

200000247

EXHIBIT E
STATEMENT OF THE BASIS OF OWNERSHIP

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

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4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country) c/o Executive Director P.O. Box 5014 Fargo, ND 58105-5014		5. TELEPHONE (include area code) 701-231-8931	6. FAX (include area code) 701-231-1013
		7. PVPO NUMBER 2000002477	
8. Does the applicant own all rights to the variety? Mark an "X" in appropriate block. If no, please explain. <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO			
9. Is the applicant (individual or company) a U.S. national or U.S. based company? If no, give name of country <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO			
10. Is the applicant the original owner? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO If no, please answer the following: a. If original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. national(s)? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO If no, give name of country _____ b. If original rights to variety were owned by a company, is the original owner(s) a U.S. based company? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO If no, give name of country _____			
11. Additional explanation on ownership (If needed, use reverse for extra space): See additional Exhibit E Statement of the Basis of the Applicant's Ownership included in the application.			

PLEASE NOTE:

Plant variety protection can be afforded only to owners (not licensees) who meet one of the following criteria:

- If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.
- If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.
- If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definition.

According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 10 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

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EXHIBIT E - STATEMENT OF THE BASIS OF THE APPLICANT'S OWNERSHIP

Dr. Elias M. Elias, an employee of the North Dakota Agricultural Experiment Station and North Dakota State University, is a plant breeder who developed 'Plaza' the durum wheat cultivar for which Plant Variety Protection is hereby sought. The employee by agreement and because of the condition of the use of facilities and funds of the North Dakota Agricultural Experiment Station and North Dakota State University has assigned all ownership rights to 'Plaza' durum wheat to the North Dakota Agricultural Experiment Station and North Dakota State University.

North Dakota State University on behalf of the North Dakota Agricultural Experiment Station has assigned all ownership to the NDSU Research Foundation. The NDSU Research Foundation is a nonprofit corporation set up to own and manage the intellectual property of North Dakota State University.